

Appl. No. : 10/773,390
Filed : February 6, 2004

REMARKS

This is in response to the Office Action mailed September 27, 2005.

Claims 2-20 are pending, Claims 2 and 8 having been amended and Claims 17-20 added herein.

By the Action, the Examiner rejected Claims 2-7 under 35 U.S.C. § 112(2) as being indefinite, due to confusing wording in Claim 2. Applicant thanks the Examiner for his careful review of the claim language and has amended Claim 2 to address this issue.

The Examiner also rejected Claims 2, 4-12 and 14-16 under 35 U.S.C. § 102 (b) as being anticipated by Janssen (USN 4,444,510), rejected Claim 3 under 35 U.S.C. § 103(a) as unpatentable over Janssen, and rejected Claim 13 as unpatentable over Janssen in further view of Watkins (USPN5,261,745).

“Trapping Undispersed Materials” Limitation

As part of the Examiner’s basis of rejection, the Examiner asserts that the limitation of “trapping undispersed materials if present in said fluid” contained in Claims 1 and 8 is “conditional or optional” or a limitation dependent upon a variable and thus fails to define over Janssen. Applicant disagrees and asserts that this claim limitation is a positive limitation which defines over the prior art.

As claimed, undispersed materials must be trapped by use of the device when those materials are present in the fluid. This action is not optional.

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Moreover, this action defines over the prior art since, if undispersed materials were present in fluid, a prior art mixing device such as Janssen would not trap those materials. In particular, a device in accordance with the prior art may be used to mix fluid without undispersed materials and mix fluid with undispersed materials. In neither case will trapping occur. However, when a device of the invention is used in accordance with the method to mix fluid without undispersed materials and to mix fluid with undispersed materials, in the latter case the undispersed materials are trapped.

Applicant notes that this type of limitation is not uncommon to prior issued patents, confirming that these types of limitation have patentable weight. A common environment of such limitations is methods of signal processing, where processing may depend upon the existence of particular signal conditions, and methods of playing games, where game play varies depending on particular game results. For example, in U.S. Patent No. 6,471,208, the patentee claims a method of playing a base game just as in the prior art. The patentee's claims also recite, however, that "if a player obtains a predetermined qualifying outcome of the first game" then the method includes the step of engaging in play of a second game segment. Of course, many results of the first segment of that game will never lead to satisfaction of the "if" condition (thus rendering the play of the game exactly as in the prior art). Nonetheless, the fact that the game play method requires the play of the second game segment when the "if" condition is met defines the method of game play over the prior art.

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Flow Limitations

Applicant asserts that the claimed method of “processing” the fluid differs from that of Janssen. Janssen discloses a method of mixing with a mixer with wide, short blades (having a long base directed radially and a short perpendicular lying as the extreme edge, col. 2, lines 24-26; whereby the hypotenuse or top edge L is twice their height, col. 4, lines 63-65), which blades are limited in number so that a “conical tip whirring” fills the space there between (col. 2, lines 41-44).

Janssen’s mixer configuration is primarily concerned with developing a “pumping” action which is the result of a generated “tipping whirl.” In particular, “[a]long the leeside top edge of each blade at the portion near the spindle a tipping whirl arises [sic], which toward the circumference progressively increases in strength and dimensions.” (col. 5, lines 33-36). Janssen’s mixing is thus dependent upon a “whirl” which follows the tips of the blades and grows to fill the wide space between to successive blades. (col. 5, lines 44-47).

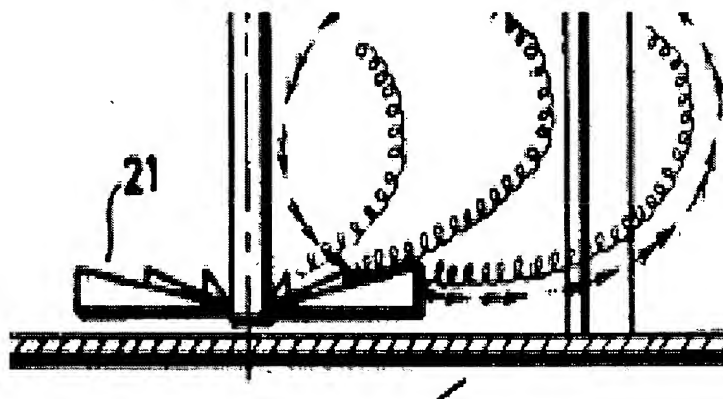
This method of mixing contrasts substantially with the method as claimed. In the method as claimed, fluid is drawn into the device and expelled radially outward (i.e. in a generally straight line path perpendicular to the axis of rotation of the device - see Figure 5 of the present application). This contrasts with Janssen where the fluid follows a “spiral” path as it travels from the mixer back to the remaining fluid.

In the claimed method of mixing, because the fluid is directed radially outward, it is aligned with the inner edges of the vanes, and is thus sheared as it encounters the vanes. Janssen makes no mention of shearing, and such step is incongruous with Janssen’s method where: (a) the fluid follows a spiral path (and thus circulates around rather than being directed at the edges of the vanes or

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blades) and (b) is directed between the blades (Applicant notes that this aspect is associated with Janssen's blade configuration in which the blades are "short" but "wide" or "deep," in that the inside edge of each blade is relatively flat, rather than vertically extending, thus allowing the fluid to flow in a directly which is substantially aligned with the inner edges rather than perpendicular thereto, as would result in shearing).

The following figure which illustrates Janssen's fluid flow shows that the fluid flow is not "radial" (but is "spiral") and even as to an area of a "spiral" flow, such flow is not radial but is curved (note the inner-most "spiral" flow which travels nearly vertical and essentially never encounters a blade).



In addition, as detailed above, Janssen does not disclose or suggest the step of "trapping" undispersed materials when such are present in the fluid, nor does it appear that Janssen's mixer is capable of doing so. Janssen does not disclose a mixer having blades which are sufficiently closely spaced to trap such materials. In addition, the fluid flow path which Janssen's mixer creates is not conducive to trapping. Among other things the fluid moves in a spiral path, so that undispersed

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materials flow along the inner edges of the blades or between the widely spaced portion of the blades, rather than being directed radially outward generally perpendicular to the inner edges where the materials would then be “caught” by the blades. Relative to Claim 3, Applicant notes that the claimed spacing is detailed in the application as “critical” to the trapping function.

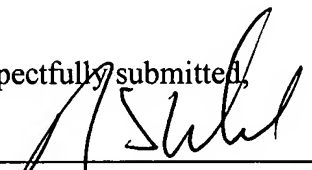
The Examiner refers to passages within Janssen referring to mixing of high viscosity liquids. Applicant notes that the significant differences between the invention as claimed and Janssen are further apparent from these passages. Janssen states that “when high viscosity liquids are to be mixed or aerated it has turned out to do so in a vessel in which several stirrers according to the invention are mounted . . .” and that “[a]s is quite common a number of vertical baffles must be provided at the inside of the vessel, regularly divided over the circumference . . .”

On the other hand, Applicant’s invention is described as a single mixing device which is configured for mixing such fluids. In other words, Applicant’s single device is configured to mix such fluids, avoiding the need for a complex configuration where multiple stirrers are mounted on a driving spindle and without the need for baffles. Applicant’s mixer is, for example, useful in mixing paint within a standard paint container (see, for example, paragraph [0081] of the present application), while Janssen discloses that in such an application the user would have to either transfer the paint to a special “baffled” container or somehow insert baffles into the stock (straight walled) container before mixing.

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Summary

Applicant asserts that claims 2 - 20 are in a condition for allowance and respectfully requests a notice as to the same. If any matters remain outstanding, the Examiner is invited to contact the undersigned by telephone.

Dated: December 27, 2005 By: Respectfully submitted,

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